

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) System of artificial intelligence for classification of events giving rise to geophysical recordings, comprising several independent processing branches merged by a high level decisional system, wherein ~~these~~ the branches are:

a neuro-fuzzy classifier, ~~making its~~ for making a decision from high level properties of events and lower level parameters extracted from ~~the~~ signals by procedures of a signal processing type;

a fuzzy expert system, ~~taking a decision in an independent way from the same information and able to explain its~~ for independently taking a decision and explaining the fuzzy expert system decision to a user through an intermediary of rules selected by order of applicability ~~to the events being processed~~ of the events; and

a neural network with local connections and shared weights, ~~constituted of~~ formed by banks of non-linear adaptable filters, itself and neural network is extracting the relevant information for time-frequency representations from signals corresponding to the events,

and wherein ~~these~~ the branches ~~configure themselves automatically~~ are configured by statistical learning on ~~a database of said events~~ of events in a database.

2. (currently amended) System according to claim 1 in which, in the fuzzy expert system (FES), a gradient decrease is carried out on the parameters:

- $x = y/\sigma$
- $s = \ln/2\sigma^2$
- $r = \ln(\rho)$
- d

with:

- y : position of fuzzy sets of premises

- σ : width of fuzzy sets of premises
- ρ : weights of rules
- d : degree of activation of each class for each rule.

3. (currently amended) System according to claim 1, in which the high level properties are ~~the~~ a localisation, ~~the~~ a magnitude, ~~the~~ a time and ~~the~~ a date.

4-7. (canceled)